Roy F. Weston, Inc
Suite 5700
700 5th Avenue
Seattle, WA 98104-5057
206-521-7600 • Fax 206-521-7601
www rfweston com

MEMORANDUM

DATE: 22 December 1998

TO: David Bennett, WAM, U S. EPA, Region X

FROM: Michelle Turner, Chemist, WESTON, Seattle
rnm Roger McGinnis, Senior Environmental Chemist, WESTON, Seattle

SUBJECT: Validation of Total Organic Carbon Analysis Results
Laboratory Batch K9806404
Site: Duwamish River

WORK ASSIGNMENT NO. 46-23-0JZZ

WORK ORDER NO . 4000-019-038-5200-00

DOC. CONTROL NO.: 4000-019-038-AAAK

cc: Bruce Woods, RAP-WAM, U.S. EPA, Region X
Dena Hughes, Site Manager, WESTON, Seattle (memo only)
Kevin Mundell-Jackson, Database Management, WESTON

The quality assurance review of sixteen sediment samples, laboratory batch K9806404, collected from the Duwamish River has been completed The sediment samples were analyzed for total organic carbon (TOC) using EPA Method 9060 by Columbia Analytical Services of Kelso,WA. The samples were numbered:

98384010	98384011	98384012	98384013	98384014
98384015	98384016	98384017	98384018	98384019
98384020	98384021	98384022	98384023	98384024
98384025				

Data Qualifications

The following comments refer to the laboratory performance in meeting the quality control specifications described in the technical specifications of the laboratory subcontract

1. Holding Times

All samples were cooled with ice or refrigerated from the time of collection until analysis. A maximum holding time of 14 days was specified in the Duwamish River Sampling and Analysis Plan. All TOC analyses were performed within 8 days of sample collection.

2 Instrument Detection Limits

All laboratory detection limits are equal to or less than the project-required detection limits of 200 mg/kg.

3 Initial Calibration

A calibration verification check was analyzed prior to sample analysis Results met control limits of 90 to 110 percent recovery of the true value.

4 Continuing Calibration Verification

Continuing calibration checks were performed initially and after every 10 samples Results for all continuing calibration checks met control limits of 90 to 110 percent recovery of the true value.

5. Laboratory Method Blanks

Laboratory method blanks were prepared and analyzed with each batch of samples. No analytes were detected in laboratory method blanks

6 Laboratory Control Sample

The recoveries for TOC were within the control limits of 80 to 120 percent

7 Laboratory Duplicate Sample Analysis

The percent relative percent difference (RPD) between replicate analytical results was within the QC limit of 35 percent.

8 Matrix Spike Analysis

Matrix spike recoveries for all analytes met QC criteria of 70 to 130 percent

9 Field Duplicate Analysis

No field duplicates were associated with this SDG

10 Sample Analysis

A cursory review of raw data was performed. No problems were noted Triplicate analyses were not performed for this SDG.

11. Laboratory Contact

No laboratory contract was required.

Data Assessment

Upon consideration of the data qualifications noted above, the data are ACCEPTABLE for use except where flagged with data qualifiers that modify the usefulness of the individual values

Data Qualifiers

U - The material was analyzed for, but was not detected

UJ - The analyte was not detected The associated quantitation limit is an estimate because quality control criteria were not met.

J - The analyte was positively identified, but the associated numerical value is an estimated quantity because quality control criteria were not met or because concentrations reported were less than the quantitation limit or lowest calibration standard

R - Quality control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9806404
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	9/15-16/1998
Sample Matrix:	Sediment	**Date Received:**	9/16-17/1998

Carbon, Total Organic

Prep Method	NONE	Units	PERCENT
Analysis Method	ASTM D4129-82M	Basis	Dry
Test Notes			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
98384010	K9806404-001	0 05	0 006	1	NA	9/23/98	2 78	
98384011	K9806404-002	0 05	0 006	1	NA	9/23/98	0 15	
98384012	K9806404-003	0 05	0 006	1	NA	9/23/98	0 15	
98384013	K9806404-004	0 05	0 006	1	NA	9/23/98	0 65	
98384014	K9806404-005	0 05	0 006	1	NA	9/23/98	1 51	
98384015	K9806404-006	0 05	0 006	1	NA	9/23/98	0 15	
98384016	K9806404-007	0 05	0 006	1	NA	9/23/98	2 06	
98384017	K9806404-008	0 05	0 006	1	NA	9/23/98	1 06	
98384018	K9806404-009	0 05	0 006	1	NA	9/23/98	1 39	
98384019	K9806404-010	0 05	0 006	1	NA	9/23/98	1 81	
98384020	K9806404-011	0 05	0 006	1	NA	9/23/98	2 61	
98384021	K9806404-012	0 05	0 006	1	NA	9/23/98	0 14	
98384022	K9806404-013	0 05	0 006	1	NA	9/23/98	0 08	
98384023	K9806404-014	0 05	0 006	1	NA	9/23/98	0 08	
98384024	K9806404-015	0 05	0 006	1	NA	9/23/98	0 14	
98384025	K9806404-016	0 05	0 006	1	NA	9/23/98	0 11	
Method Blank	K9806404-MB	0.05	0.006	1	NA	9/23/98	ND	

M Modified

NQT 12/16/98

Approved By TJ Date 11/21/98

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